

REMARKS

Claims 1-67 are currently pending in this application.

As an initial matter, Applicant submits that the Office Action dated December 29, 2005, was improperly made final. The cover sheet indicates both that the Office Action is not final and that the Office Action is final. The conclusion section of the detail indicates the Office Action is final. Further, Applicant's prior arguments regarding claims 49-52 were not addressed by the Examiner. The Examiner incorrectly indicated Applicant's arguments were moot, but repeated the very same basis for rejection without addressing the arguments. In addition, Applicant twice previously requested an interview and further submitted an Applicant Initiated Interview Request form concurrent with filing the Response Amendment on October 24, 2005. The Examiner made the Office Action final without scheduling or conducting an interview with the Applicant, to which Applicant is entitled.

Nevertheless, Applicant is concurrently filing a Request for Continued Examination. In the event the Examiner finds the Application is not in a condition for allowance after considering this Response, Applicant respectfully requests that the Examiner schedule an interview with the Applicant to discuss the allowability of the claims over the cited references.

Claims 1-50 and 53-67 Are Not Rendered Obvious by Aversa in view of Bruck

The Examiner rejected Claims 1-50 and 53-67 under 35 U.S.C. § 103(a) as being unpatentable over Aversa et al., Load Balancing a Cluster of Web Servers, Technical Report BUCS-TR-1999-01, in view of U.S. Patent No. 6,801,949 issued to Bruck et al. Applicant notes that paragraph 2 of the Office Action does not list all of the claims which the Examiner appears to have rejected as rendered obvious over Aversa in view of Bruck. The Examiner's detailed arguments suggest that Aversa in view of Bruck also serves as a basis for his rejection of claims 12, 17, 29, 31, 32, 34, 36, 37, 39-41, 44, and 50, and Applicant has responded accordingly. Applicant respectfully traverses the Examiner's rejections.

Independent claim 1 recites, "a first computing device comprising a first port and a second port and configured to: receive from a first network coupled to the first port, ... selectively output, to a second network coupled to the second port and that is logically separate

from the first network, the request packet to the second computing device.” The Examiner concedes that Aversa does not teach, suggest or motivate a first network coupled to a first port and a second network coupled to a second port, and the second network being logically separate from the first network.

Without citing another reference, the Examiner first contends it would be obvious to use two separate networks to connect the servers in Aversa because this would “reduce bottlenecking by not requiring one server to act as a router for all the other servers.” Office Action, paragraph beginning on page 3 and continuing to page 4. The Examiner misunderstands Aversa, which already distributes requests over the servers in the cluster. Adding a second network would not change the number of requests received by the server in Aversa. As previously stated by Applicant, the Examiner’s logic is flawed because using two networks does not necessarily eliminate one server acting as a router; it makes routing more efficient and, in Applicant’s case, makes it easy for a server to distinguish between an originally received packet and a redistributed packet. See Applicant’s specification at page 52. Aversa teaches away from the claimed second port and second network because Aversa specifically requires other means to distinguish between packets received from a client and rerouted packets. See Aversa, § 3.1, second paragraph. Thus, contrary to the Examiner’s assertion, one would not be motivated to add a second network to reduce server bottlenecks. The Examiner also appears to be impermissibly relying on hindsight reasoning.

The Examiner then points to the external subnet, the internal subnet 2 and the internal subnet 3 of Figure 3 of Bruck for “three logically separate networks which carry three separate types of information.” Bruck does not teach, suggest or motivate that these networks carry three separate types of information. The distributed servers in Bruck receive packets from users and host machines addressed to virtual IP addresses associated with the distributed servers. There is no suggestion in Bruck that any of these networks are used to selectively output request packets from one of the distributed servers of Bruck to another distributed server.

Thus, Aversa, alone or in combination with Bruck, does not teach suggest or motivate “a first computing device comprising a first port and a second port and configured to: receive from a first network coupled to the first port, ... selectively output, to a second network

coupled to the second port and that is logically separate from the first network, *the request packet* to the second computing device,” as recited in claim 1 (emphasis added). Accordingly, claim 1 is allowable.

Independent claim 18 recites, “[a] method performed by a first computing device of an information processing system, the first computing device coupled to a first network via a first port and coupled to a second network via a second port, the first and second networks being logically separate, comprising ... receiving, through the first port, a request packet originating from the client; and ... selectively outputting, through the second port, the request packet to the second computing device” The Examiner relies on the analysis described above to reject claim 18. As discussed above, Aversa, alone or in combination with Bruck, does not teach, suggest or motivate “selectively outputting, through the second port, the request packet to the second computing device,” as recited in claim 18. Accordingly, claim 18 is allowable.

Independent claim 35 recites, “[an] intelligent network interface device, comprising: a first port for receiving an IP request packet from a client over a first network; and a second port for transmitting the received IP request packet over a second network that is logically separate from the first network.” The Examiner relies on the analysis described above to reject claim 35. As discussed above, Aversa, alone or in combination with Bruck, does not teach, suggest or motivate “a first port for receiving an IP request packet from a client over a first network; and a second port for transmitting the received IP request packet over a second network that is logically separate from the first network.” Accordingly, claim 35 is allowable.

Independent claim 39 recites, “a first network to receive client requests and coupled to a first server of the plurality of servers; a second network logically separate from the first network, configured to redistribute received client requests and coupled to each of the plurality of servers.” The Examiner relies on the analysis described above to reject claim 39. As discussed above, Aversa, alone or in combination with Bruck, does not teach, suggest or motivate “a first network to receive client requests and coupled to a first server of the plurality of servers; a second network logically separate from the first network, configured to redistribute received client requests and coupled to each of the plurality of servers,” as recited. Accordingly, claim 39 is allowable.

Independent claim 42 recites, “when a client request packet is received at a first port coupled to a first network, selectively generating, based at least in part on the maintained state table, a first type of network packet for transmission to a client through the first network or a second type of network packet for transmission to another processor residing in a different one of the plurality of servers at a second port coupled to a second network that is logically separate from the first network.” The Examiner indirectly relies on the analysis described above to reject claim 42. See Office Action, Paragraph 21. There is no reason given in the Office Action as to the basis for rejecting claim 42. Applicant respectfully requests that the Examiner provide prima facie evidence for his rejection. Nevertheless, and as discussed above, Aversa, alone or in combination with Bruck, does not teach, suggest or motivate “when a client request packet is received at a first port coupled to a first network, selectively generating, based at least in part on the maintained state table, a first type of network packet for transmission to a client through the first network or a second type of network packet for transmission to another processor residing in a different one of the plurality of servers at a second port coupled to a second network that is logically separate from the first network,” as recited in claim 42. Accordingly, claim 42 is allowable.

Independent claim 46 recites, “means for transmitting the second type of packet to another server in the server farm, wherein the means for transmitting the second type of packet bypasses the means for receiving packets from the global network.” There is no reason given in the Office Action as to the basis for rejecting claim 46. Applicant respectfully requests that the Examiner provide prima facie evidence for his rejection. Nevertheless, Aversa, alone or in combination with Bruck, does not teach, suggest or motivate “means for transmitting the second type of packet to another server in the server farm, wherein the means for transmitting the second type of packet bypasses the means for receiving packets from the global network,” as recited. Accordingly, claim 46 is allowable.

Independent claim 54 recites, “[a] server farm, comprising: a first network configured to receive client packets; a second network logically separate from the first network and configured to redistribute the received client packets” The Examiner relies on the analysis described above to reject claim 54. As discussed above, Aversa, alone or in

combination with Bruck, does not teach, suggest or motivate “[a] server farm, comprising: a first network configured to receive client packets; a second network logically separate from the first network and configured to redistribute the received client packets,” as recited. Accordingly, claim 54 is allowable.

Independent claim 57 recites, “receiving a client packet through a first network; selectively redistributing the received client packet through a second network that is logically separate from the first network” The Examiner relies on the analysis described above to reject claim 57. As discussed above, Aversa, alone or in combination with Bruck, does not teach, suggest or motivate “receiving a client packet through a first network; selectively redistributing the received client packet through a second network that is logically separate from the first network,” as recited. Accordingly, claim 57 is allowable.

Claims 2-17 depend from claim 1, and are therefore allowable at least by virtue of their dependencies. Claims 19-34 and 53 depend from claim 18, and are therefore allowable at least by virtue of their dependencies. Claims 36-38 depend from claim 35, and are therefore allowable at least by virtue of their dependencies. Claims 40 and 41 depend from claim 39, and are therefore allowable at least by virtue of their dependencies. Claims 43-45 depend from claim 42, and are therefore allowable at least by virtue of their dependencies. Claims 47 and 48 depend from claim 46, and are therefore allowable at least by virtue of their dependencies. Claims 55 and 56 depend from claim 54, and are therefore allowable at least by virtue of their dependencies. Claims 58-66 depend from claim 57, and are therefore allowable at least by virtue of their dependencies.

Applicant notes that the Examiner has made several conclusory observations, which the Examiner fails to support with citations and which Applicant respectfully traverses, as it is the Examiner’s burden to provide evidence of these observations in the art. With regard to claims 2 and 19, Applicant respectfully traverses the Examiner’s contention that a NIC is inherent in a computing device coupled to a network. With regard to claims 10 and 27, as well as the claims that depend from claims 10 and 27, Applicant respectfully traverses the Examiner’s contention that the existence of sequence numbers would render it obvious to establish a data structure including a group of sequence numbers. With regard to claims 36-41, 44, 48, and 54-

66, Applicant respectfully traverses the Examiner's apparent contention that reducing bottlenecks would teach, suggest or motivate the use of a third port/network for synchronization traffic.

The Examiner relies on the analysis described above to reject claim 49, but also appears to admit that neither Aversa nor Bruck teach, suggest or motivate selectively outputting "the request packet to the network interface card of the first computer system without using IP-IP encapsulation," as recited. See Office Action, paragraph 25. Accordingly, Applicant submits that claim 49, as well as claims 50-52 that depend from claim 49, are not rendered obvious by Aversa, alone or in combination with Bruck. The Examiner's other basis for the rejection of claims 49-52 is discussed below.

Claim 49-52 Are Not Rendered Obvious by Aversa in view of Joffe

The Examiner has rejected Claims 49, 51 and 52 under 35 U.S.C. § 103(a) as being unpatentable over Aversa in view of U.S. Patent No. 6,185,619 issued to Joffe et al. Applicant has assumed, for purposes of expediting prosecution, that the Examiner intended to reject claim 50 on this basis as well. Applicant previously addressed this basis for rejection, and the Examiner did not respond to Applicant's arguments in the Final Office Action. Hence, Applicant continues to respectfully traverse the Examiner's rejections.

Independent claim 49 recites, "[an] information processing system, comprising: a first computer system; and a second computer system having a network interface card that is structured to: receive an initialization packet originating from a client; output a response packet to the client to set up a connection over a network; receive a request packet originating from the client directed to the connection; and based on at least a state of at least one of the first computer system and the second computing system, selectively output the request packet to a network interface card of the first computer system thereby migrating the connection to the first computer system, wherein the network interface card of the second computer system selectively outputs the request packet to the network interface card of the first computer system without using IP-IP encapsulation."

The Examiner appears to presume, without expressly stating, that Aversa teaches, suggests or motivates (or inherently discloses) not only a network interface card, but a network interface card “structured to ... selectively output the request packet,” as recited. Applicant respectfully submits that there is no such teaching, suggestion or motivation in Aversa. Further, the Examiner admits that Aversa does not teach, suggest or motivate not using IP-IP encapsulation. The Examiner points to Column 12, lines 50-55 of Joffe as supplying the missing teaching and apparently to Column 3, lines 35-40 as supplying the motivation to combine the references.

As a preliminary matter, the Examiner has not identified how to combine Aversa and Joffe to achieve the embodiment of claim 49 or identified what corresponds to the claimed first and second computer systems. The Examiner cites to Column 12, lines 50-55 of Joffe, where forwarding a request packet is mentioned, but no details are provided regarding any process for forwarding the packet. The description of Figure 4C at Column 13, line 56 through Column 14, line 22 indicates the “relaying takes place at the IP level,” but does not provide an explanation of how the relaying occurs. There is no suggestion in Joffe to omit the use of IP-IP encapsulation techniques as claimed. Rather, to the contrary, there is explicit reference to “IP tunneling techniques.” See Joffe, column 9, lines 53-56. IP tunneling refers to IP-IP encapsulation. See RFC 2003, Introduction. (A copy of RFC 2003 is attached to a previously filed Supplemental Information Disclosure Statement.) Thus, Joffe teaches away from the recited language “without using IP-IP encapsulation.” In addition, in Joffe the relaying is done by a front-end component 360, not a network interface card as recited in claim 49. Front-end component 360 is described as software executed by a front-end server 212. See Figure 4A of Joffe. Further, Column 3, lines 35-40, pointed to by the Examiner to provide motivation, does not provide any specific motivation to combine anything. It is nothing more than a general statement that “what is needed is a system that automatically selects an appropriate server.” Accordingly, Applicant respectfully submits that claim 49, as well as claims 50-52 that depend from claim 49, are not anticipated or rendered obvious by Aversa, alone or in combination with Joffe.

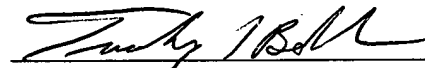
Conclusion

Therefore, for these reasons and others, claims 1-67 are not anticipated or rendered obvious by Aversa, alone or in combination with Bruck and Joffe. In the event the Examiner disagrees or finds minor informalities, Applicant respectfully renews its request for a telephone interview to discuss the Examiner's issues and to expeditiously resolve prosecution of this application. Accompanying this Amendment is a Third Request for Telephone Interview in the event the Examiner does not agree that the claims are allowable over the cited references.

In closing, Applicant respectfully requests the Examiner to enter these amendments and to reconsider this application and its early allowance. The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,

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